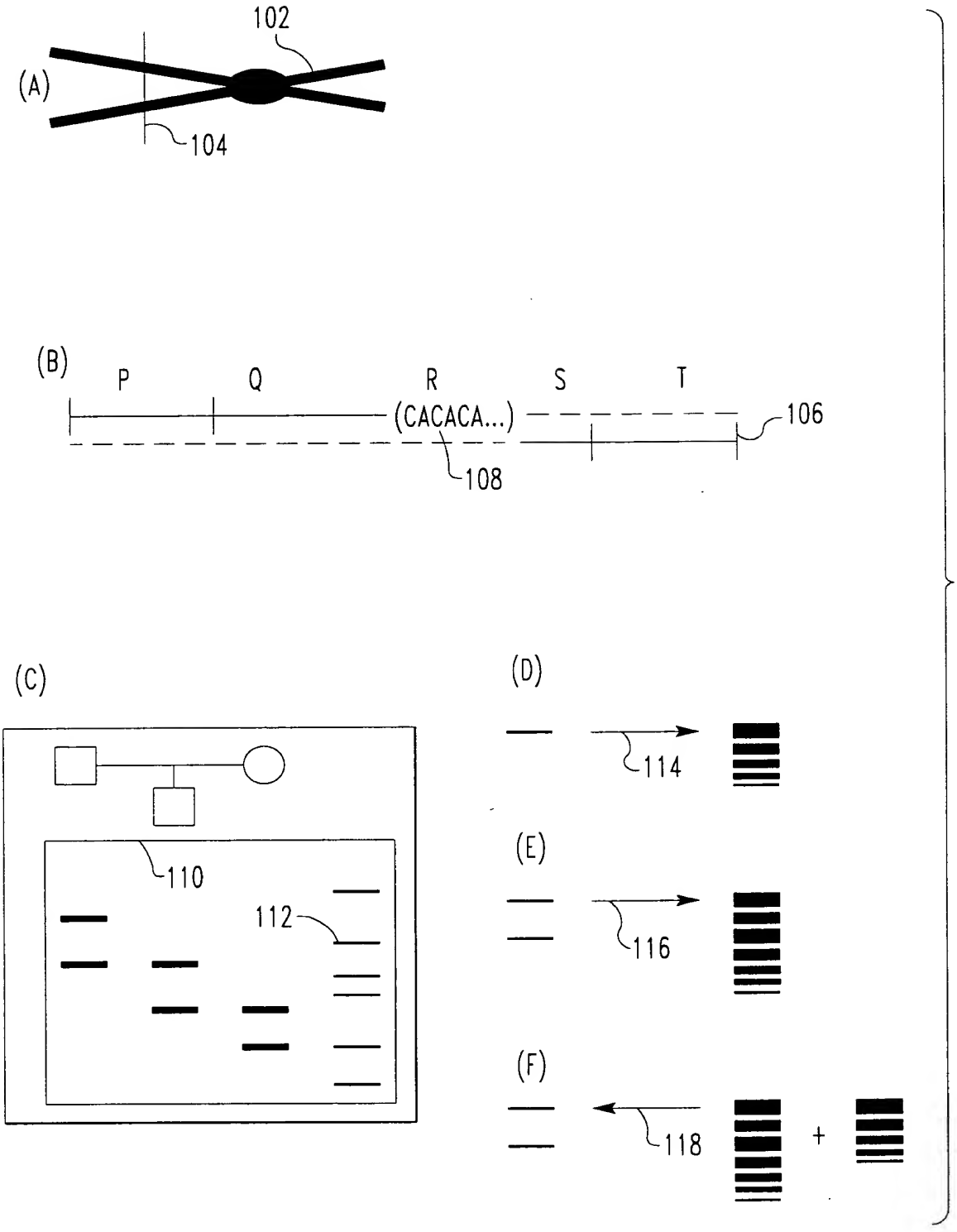

FIG.1A

(STEP 1) ACQUIRE AN INDIVIDUAL'S GENOMIC DNA

(STEP 2) PERFORM PCR AMPLIFICATION AT AN STR LOCUS OF THIS DNA

(STEP 3) SIZE SEPARATION ASSAY OF THE AMPLIFIED PCR PRODUCTS

(STEP 4) ANALYZE THE PEAKS OF THE RESULTING ASSAY INTO DNA SIZE VS. CONCENTRATION FEATURES

(STEP 5) DECONVOLVE THE ANALYZED PCR PRODUCT TO DETERMINE THE GENOTYPE OF THE INDIVIDUAL AT THE STR LOCUS

(STEP 5') DECONVOLUTION USING FOURIER DOMAIN SIGNAL PROCESSING

(STEP 6) EMPLOYING A PCR STUTTER PATTERN LIBRARY

FIG. 1B

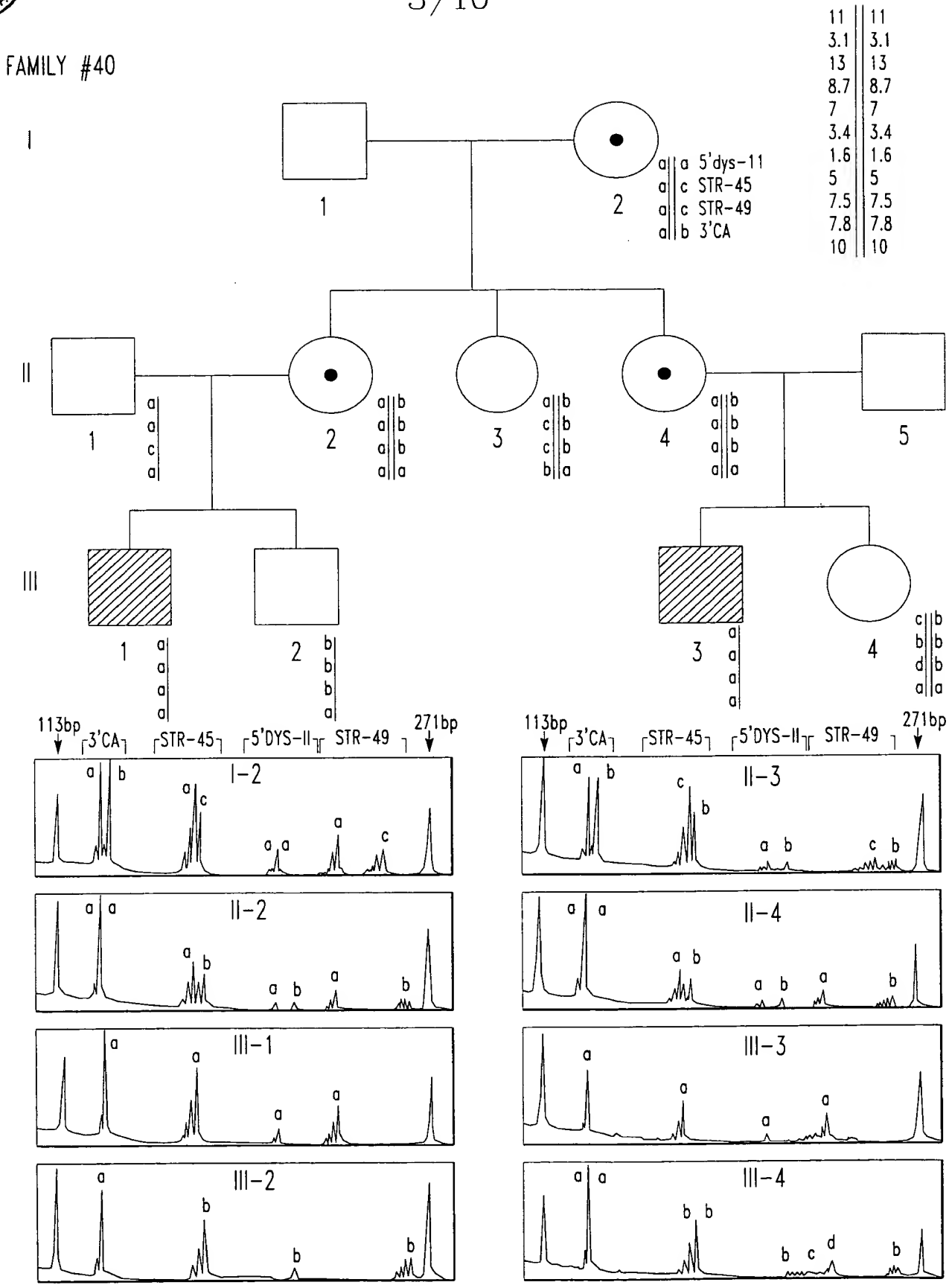

FIG.2

DATA FROM MARKER STR-45.

SIZE	INDIVIDUAL A	INDIVIDUAL E
161	821	930
163	2171	1928
165	7242	5896
167	20799	18115
169	55373	47391
171	101299	94852
173	0	61326
175	0	0

DATA FROM MARKER STR-49.

SIZE	INDIVIDUAL D
221	843
223	1217
225	2360
227	6123
229	11469
231	26811
233	48135
234	0
236	0
238	0
240	0
242	0
244	0
246	0
248	0
250	0
252	1695
254	2877
256	5410
258	11553
260	17482
262	25866
264	28672

FIG. 3A

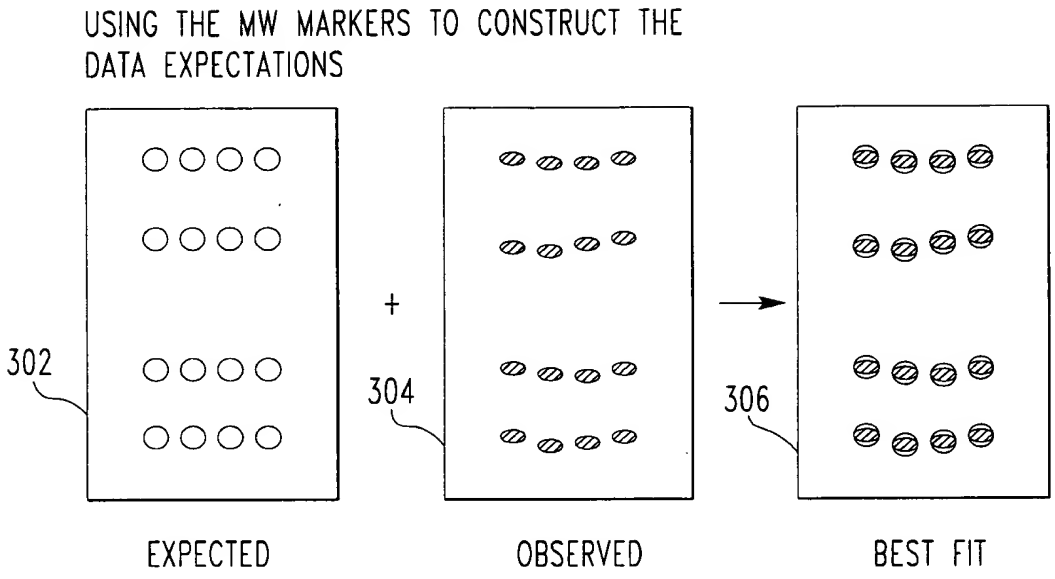

FIG.3B

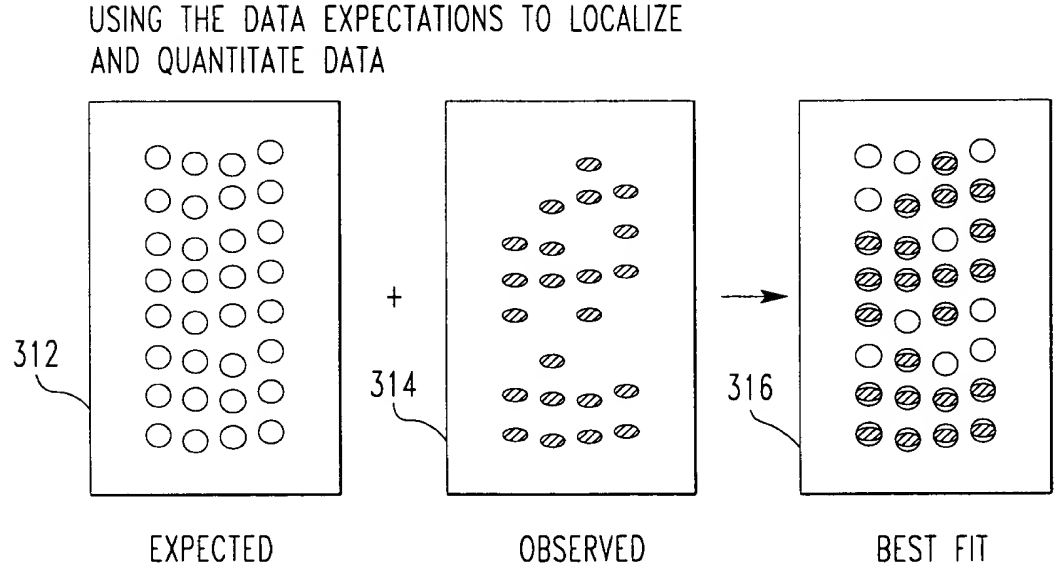

FIG.3C

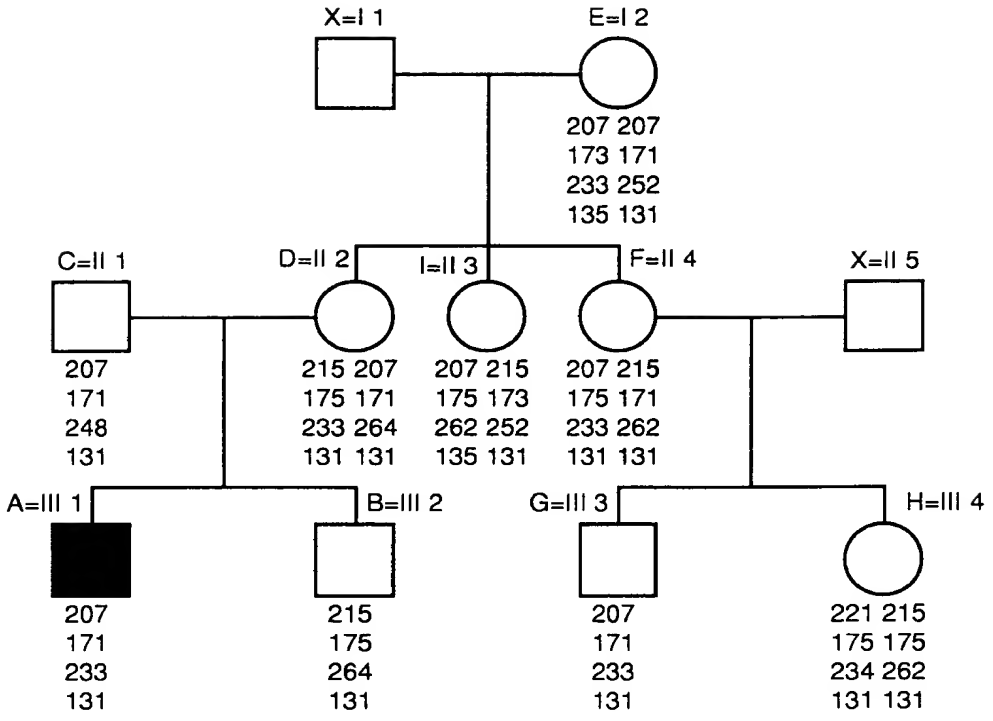

FIG. 4

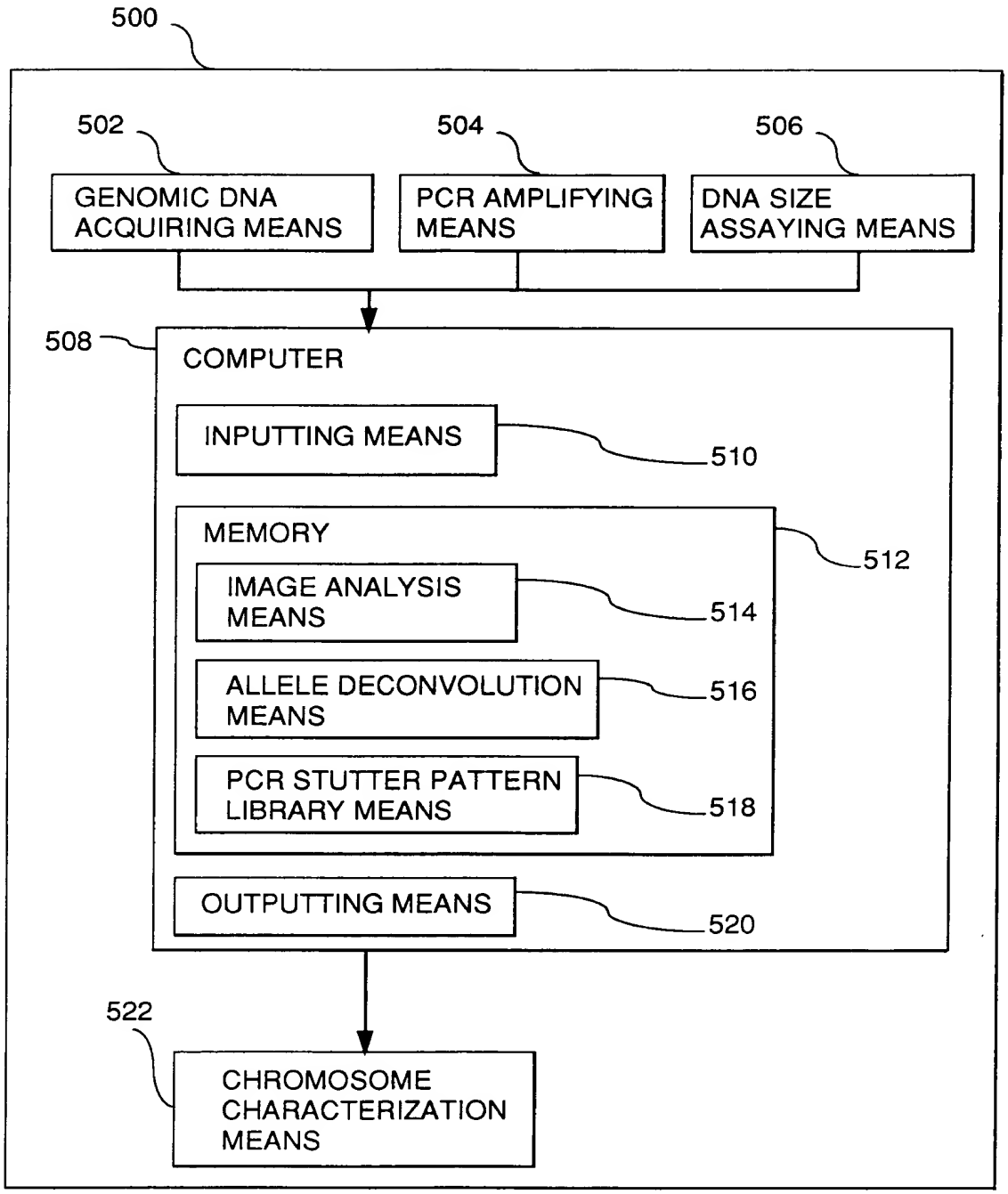

FIG. 5

(STEP 1) DETERMINE GENOTYPES OF RELATED INDIVIDUALS.

(STEP 2) SET CHROMOSOME PHASE BY GRAPH PROPAGATION, DEDUCTIVE METHODS, OR LIKELIHOOD ANALYSIS.

(STEP 3) DETERMINE THE PHENOTYPIC RISK OF DISEASE FOR THE INDIVIDUALS.

(STEP 4) PRESENT THE RESULTS.

FIG. 6

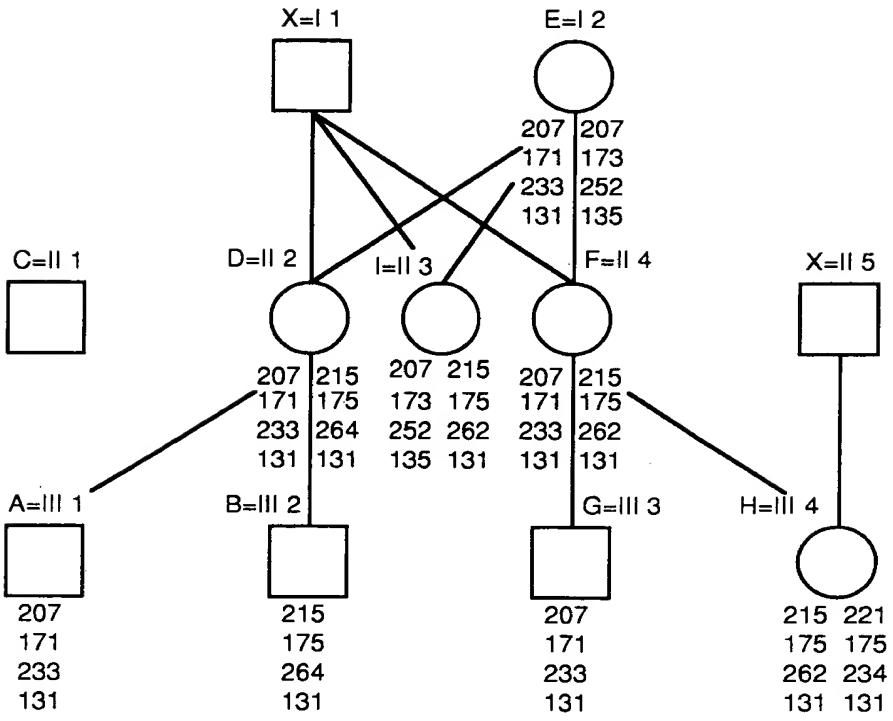

FIG. 7

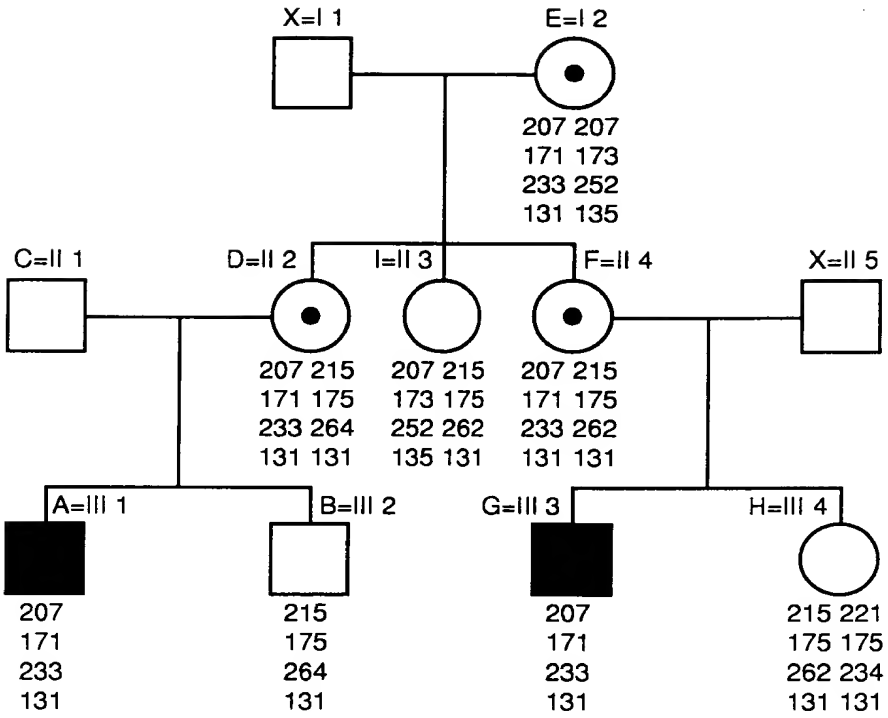

FIG. 8